FD-10E

SERVICE MANUAL

E Model
AEP Model

SPECIFICATIONS

TV system CCIR (B,G)
Channel coverage VHF channels 2—12
UHF channels 21—68
Antenna Telescopic Antenna
Picture tube 2-inch picture measured diagonally
Input EXT ANT (mini) jack, impedance 75Ω
Output EAR (earphone) jack, impedance 8—300Ω
Power requirement
6V DC
Battery life

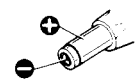
Battery		Approx. hours
Battery compartment	Sony battery SUM-3 (NS)	1.5
	Sony alkaline battery AM3 (N)	5
External battery case	Sony battery SUM-2 (NS)	6
	Sony alkaline battery AM2 (N)	14

Power consumption
1.6W (6V DC)
Dimensions Approx. 64.3×156.2×41.5mm (w/h/d) ($2\frac{5}{8}\times6\frac{1}{4}\times1\frac{11}{16}$ inches)
incl. projecting parts and controls
Weight Approx. 410g (14.5oz)
incl. batteries

FEATURES

- Miniature black and white TV for portable or tabletop use.
- 4-way power sources capability for versatile use.
- Stable picture can be obtained with synchronous processor IC.
- External antenna input for better reception.
- Sound position enbles listening to the TV sound only.

Note: Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



Polarity of the Sony plug

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

FLAT BLACK AND WHITE TV

SONY®

B&W

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

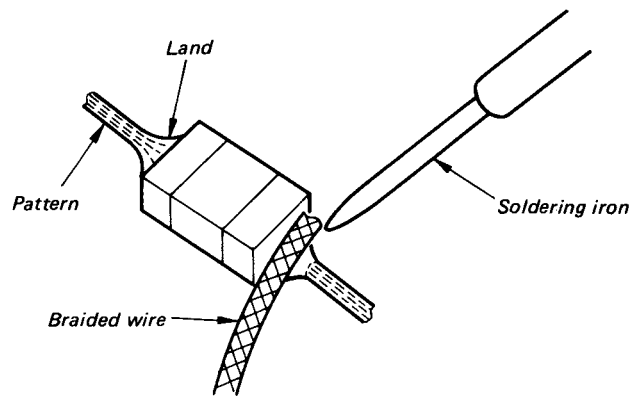
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

(1) **Removing solder at electrode**

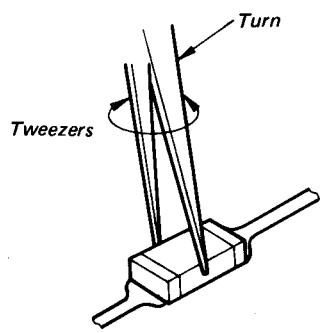
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) **Disconnecting chip components**

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) **Smoothing the soldered surface**

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

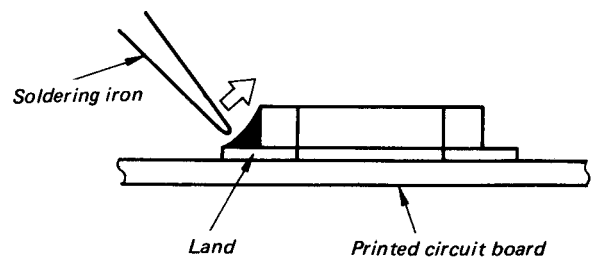
The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

(1) **Applying solder to land on one side**

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.

(2) **Speedy soldering**

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



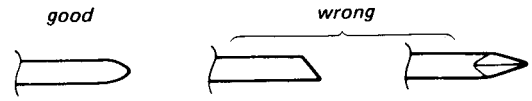
(3) **Speedy soldering of electrode on the other side**

Solder the electrode on the other side in the same way as in (2) above.

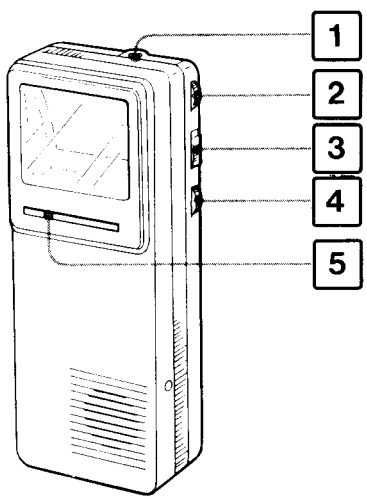
Flexible Circuit Board Repairing

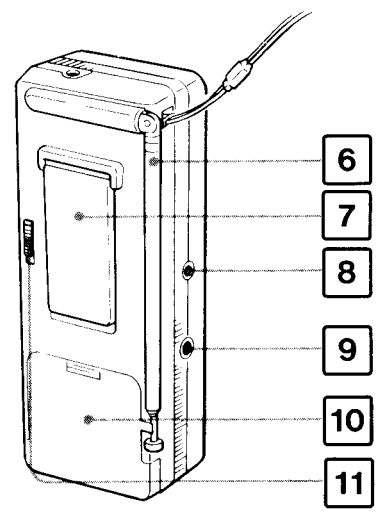
1. Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

Tip of soldering iron



LOCATION OF CONTROLS





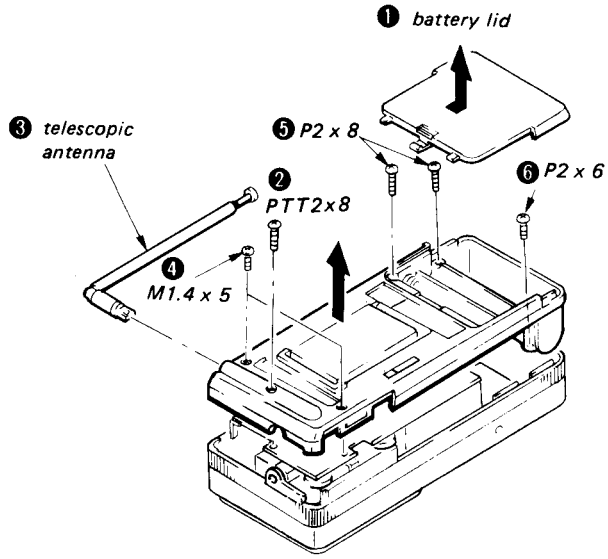
[1] EXT ANT (external antenna) jack
[2] VOL (volume) control
[3] POWER switch
[4] TUNING control
[5] Dial scale

[6] Telescopic antenna
[7] Stand
[8] EAR (earphone) jack
[9] DC IN 6V (external power input) jack
[10] Battery compartment
[11] BAND switch

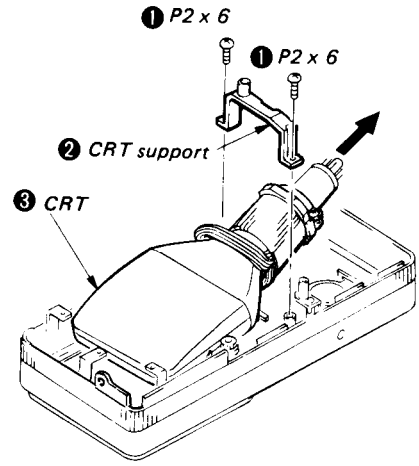
SECTION 1
DISASSEMBLY

Note: Follow the disassembly procedure in numerical order given.

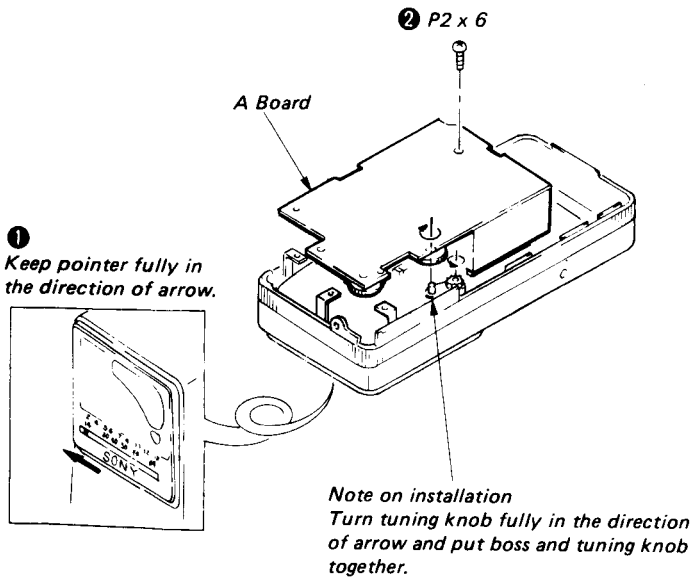
REAR CABINET



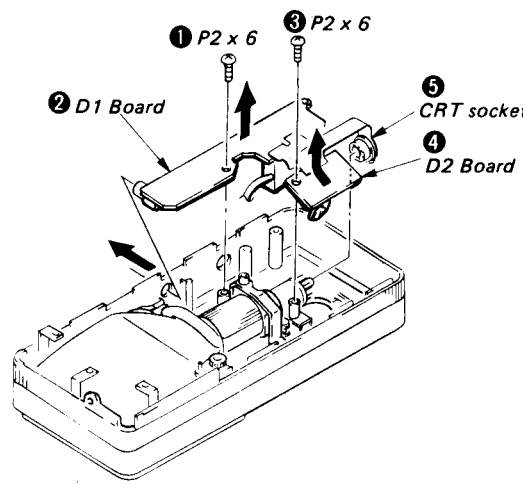
CRT



A BOARD


❷ P2 x 6
A Board
❶
Keep pointer fully in the direction of arrow.
Note on installation
Turn tuning knob fully in the direction of arrow and put boss and tuning knob together.

D1 BOARD, D2 BOARD



SECTION 2
ADJUSTMENTS

1. Test Equipment Required
   - regulated power supply
   - color-bar/pattern generator
   - digital voltmeter

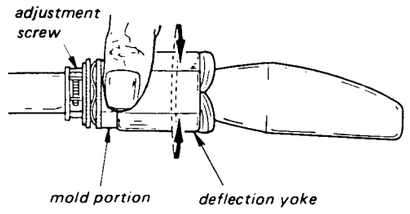
2. Input Signal
   a cross-hatch, a color-bar or a TV station.

3. These adjustment should be performed with 6V dc unless otherwise noted.

Horizontal Alignment Adjustment

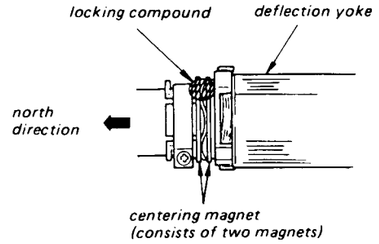
1. Loosen the adjustment screw.
2. Tune in a TV station and adjust deflection yoke for optimum picture.
3. Tighten the screw after the adjustment.

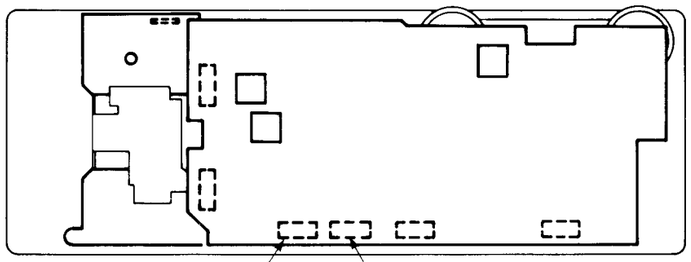
Note: When making the adjustment, turn the deflection yoke while holding the mold portion together with yoke.



Centering Adjustment

1. Turn the socket of CRT toward the north.
2. Tune in a TV station.
3. Adjust the centering magnet so that the picture is in the center.





Horizontal Frequency Adjustment

1. Connect terminal ⑬ of IC501 to ground.
2. Tune in a TV station and adjust RV501 for stable picture.

4.7V Adjustment

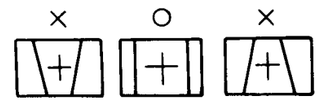
Adjust RV601 for 4.7V reading on collector of Q601.

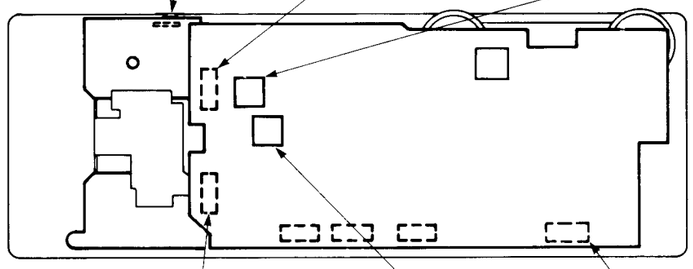
Focus Adjustment

1. Set the regulated dc power supply voltage to 4.5V.
2. Adjust RV801 for the best focus at the center of the picture.

Keystone Correction (KEYST) Adjustment

1. Tune in a TV station.
2. Adjust RV851 for optimum picture.





V Linearity Adjustment

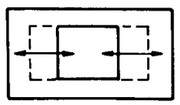
1. Tune in a TV station.
2. Adjust RV503.

RF AGC Adjustment

1. Tune in a TV station.
2. Adjust RV201 so that snow noise disappears from the picture.

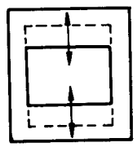
Horizontal Amplitude (H-SIZE) Adjustment

1. Tune in a TV station.
2. Adjust RV852 for the best horizontal amplitude.



Vertical Amplitude (V-SIZE) Adjustment

1. Tune in a TV station.
2. Adjust RV502 for the best vertical amplitude.



icture is

e

Focus Adjustment

1. Set the regulated dc power supply voltage to 4.5V.
2. Adjust RV801 for the best focus at the center of the picture.

RV801

Keystone Correction (KEYST) Adjustment

1. Tune in a TV station.
2. Adjust RV851 for optimum picture.

× ○ ×

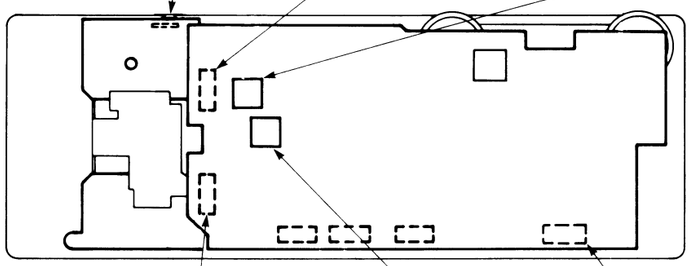
RV851

V Linearity Adjustment

1. Tune in a TV station.
2. Adjust RV503.

NG OK NG

RV503



RV201

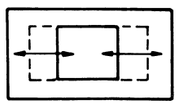
RF AGC Adjustment

1. Tune in a TV station.
2. Adjust RV201 so that snow noise disappears from the picture.

RV852

Horizontal Amplitude (H-SIZE) Adjustment

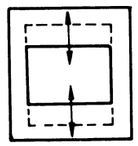
1. Tune in a TV station.
2. Adjust RV852 for the best horizontal amplitude.



RV502

Vertical Amplitude (V-SIZE) Adjustment

1. Tune in a TV station.
2. Adjust RV502 for the best vertical amplitude.



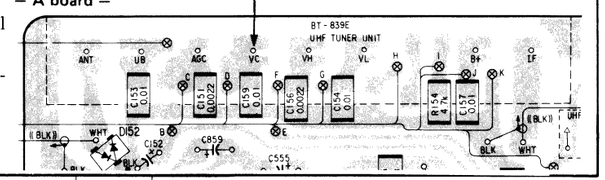
Channel Display Adjustment

1. Set the BAND switch to UHF.
2. Turn the TUNING knob, set the dial pointer to the numer "68" on dial scale.
3. Adjust RV602 for 21.2V reading on digital voltmeter.
4. Set the BAND switch to VHF and set the dial pointer to the number "5" on dial scale.
5. Adjust RV155 for 9.2V reading on digital voltmeter.

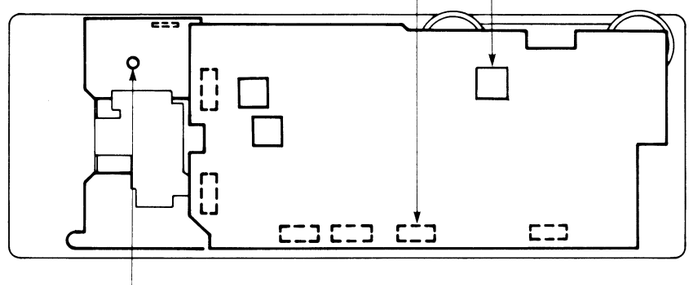
digital voltmeter

+ −

– A board –



RV602 *RV155*



RV803

Luminance (BRT) Adjustment

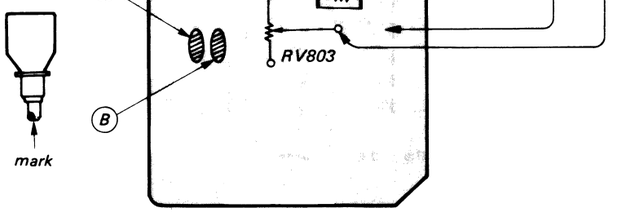
1. Bridge the pattern as shown at right according to the mark on the neck of the picture tube.

	Ⓐ	Ⓑ
no mark	open	bridge
red mark	bridge	open

2. Connect a digital voltmeter across R869 and adjust RV803 for 24.6V reading on digital voltmeter.

– D2 board –

digital voltmeter



FD-10E FD-10E

SECTION 3
DIAGRAMS

3-1. MOUNTING DIAGRAM

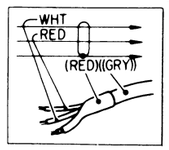
- **Refer to Page 14 Semiconductor Lead Layouts**

- **Semiconductor Location**

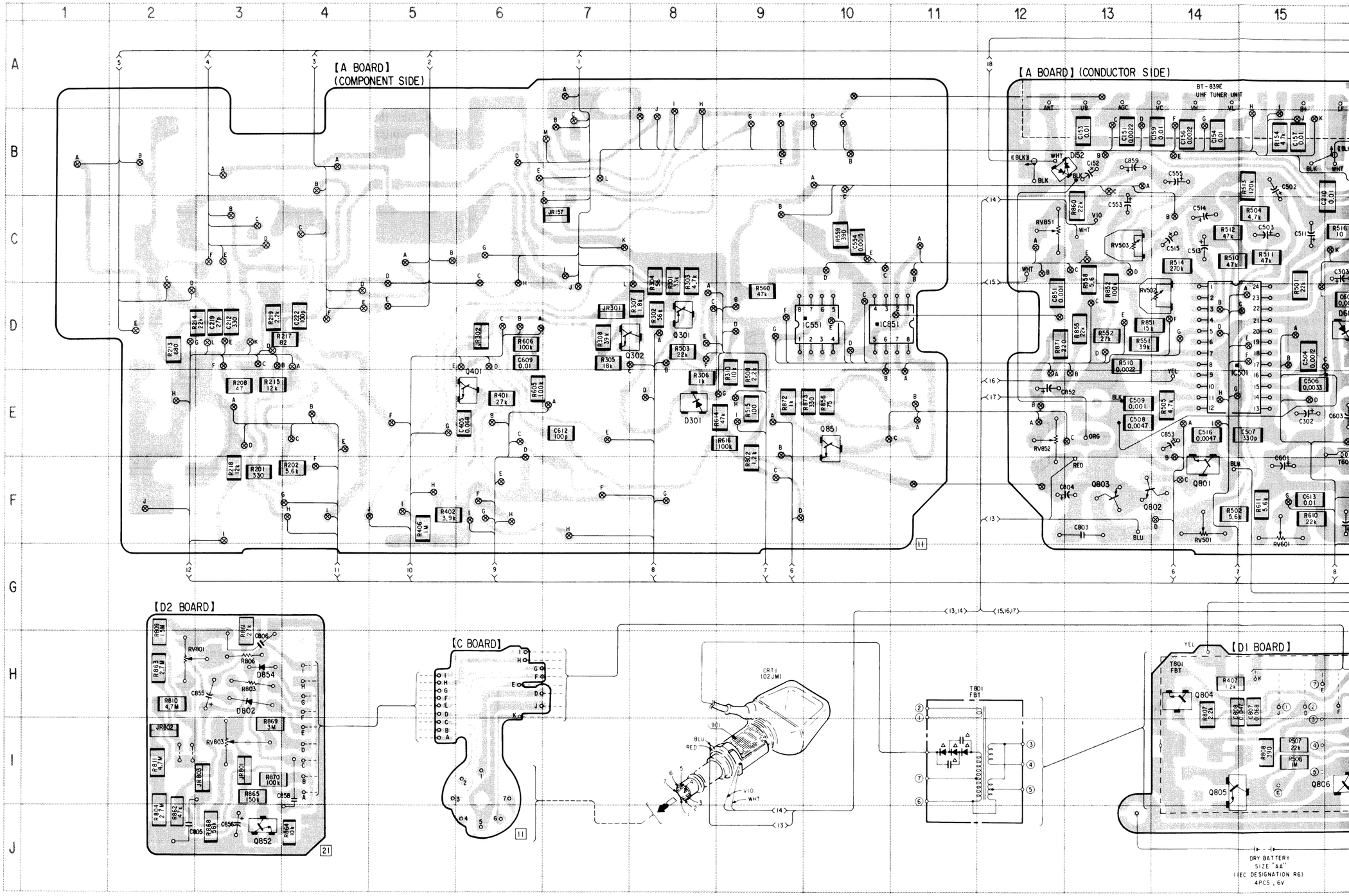
Ref. No.	Location
D151	B-17
D152	B-12
D301	E-8
D501	I-16
D603	D-16
D604	D-16
D802	H-3
D851	I-17
D854	H-3
IC201	D-20
IC451	I-19
IC501	E-14
IC551	D-10
IC601	E-17
IC851	D-10
Q153	C-18
Q201	F-19
Q301	D-8
Q302	D-7
Q401	E-6
Q601	F-16
Q602	E-16
Q801	F-14
Q802	F-13
Q803	F-13
Q804	H-14
Q805	I-14
Q806	I-16
Q851	E-10
Q852	J-3

Note:

Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]→ : indicates side identified with part number.
- ⊗ : Through hole.



【A BOARD】(CONDUCTOR SIDE)

【C BOARD】

【D1 BOARD】

CRT1 (02JM)

T801 FBT

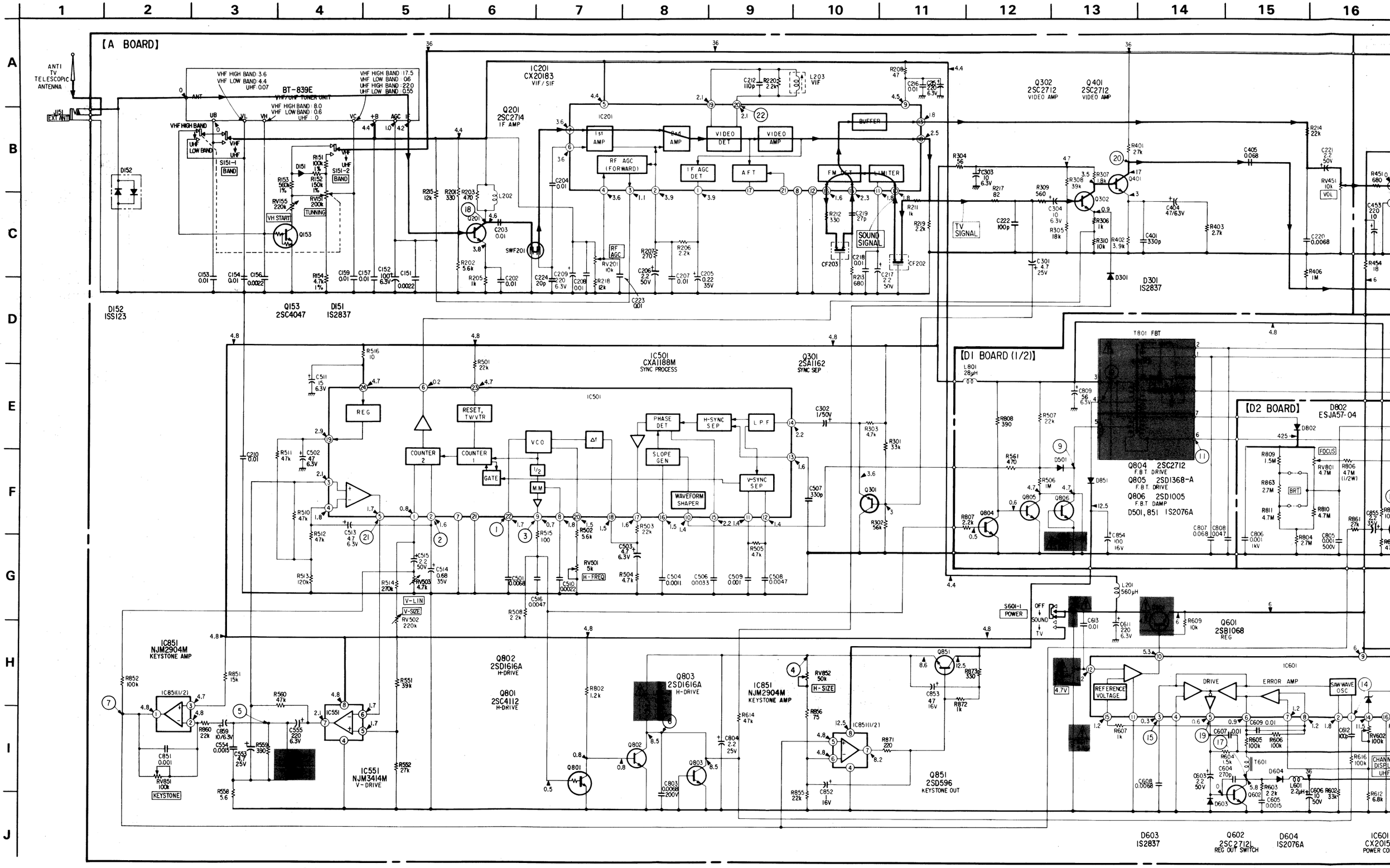
SP901 SPEAKER

ANT 1 TV TERESCOPIC ANTENNA

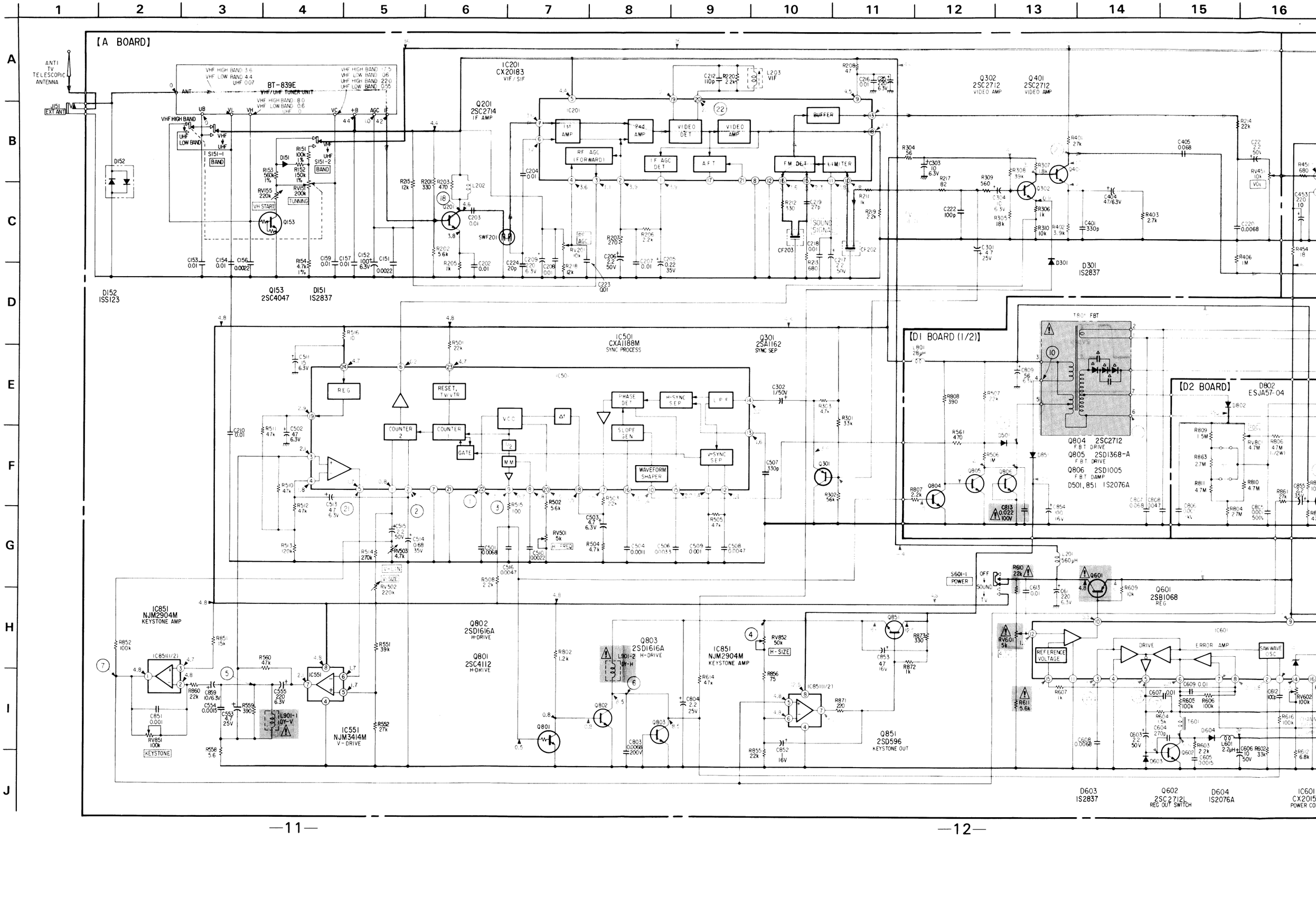
DRY BATTERY SIZE "AA" (IEC DESIGNATION R6) 4PCS , 6V

3-2. SCHEMATIC DIAGRAM

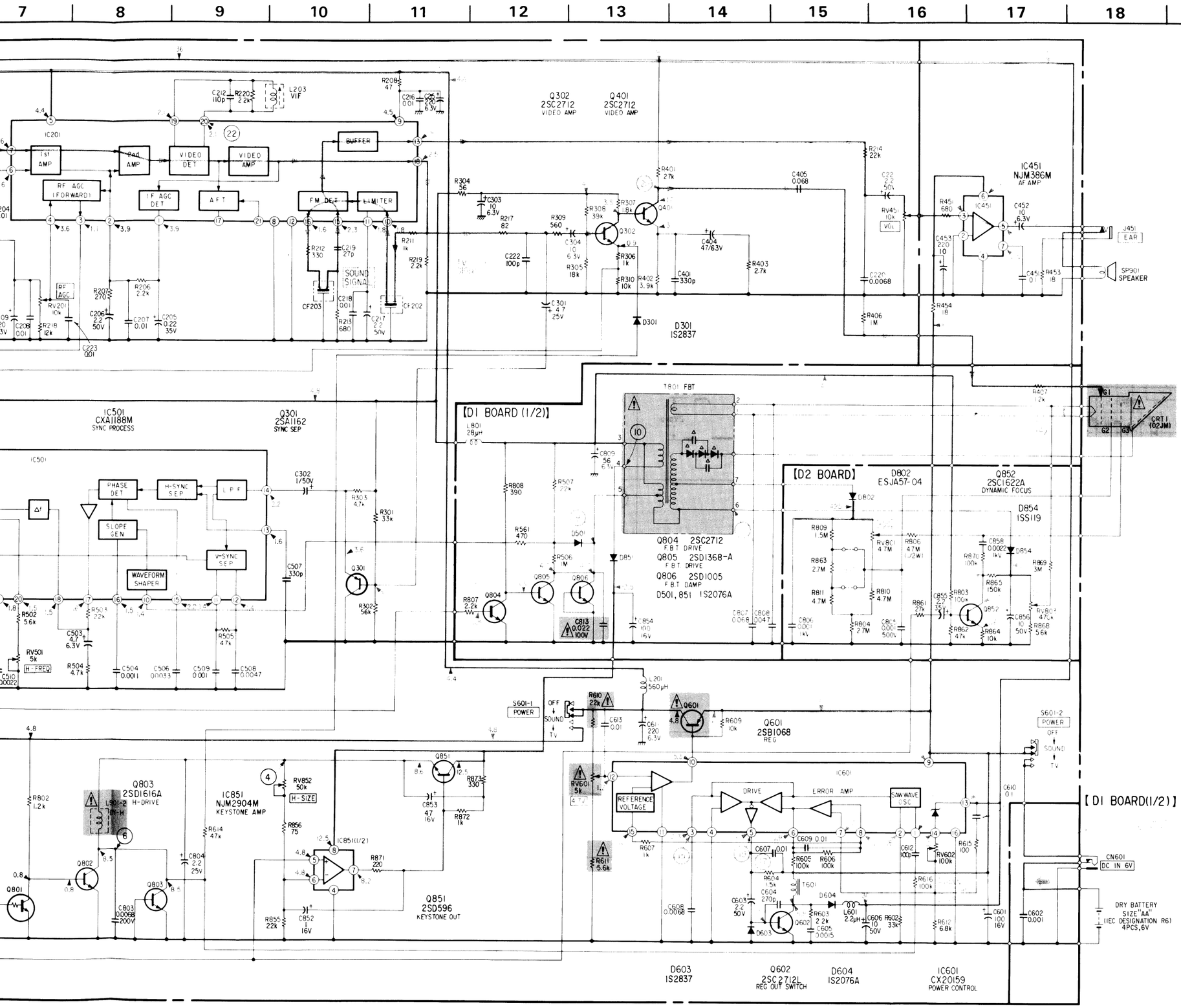
- Refer to page 14 for VHF/UHF TUNER UNIT schematic diagram and page 15 for waveforms.



- Refer to page 14 for VHF/UHF TUNER UNIT schematic diagram and page 15 for waveforms.



FD-10E



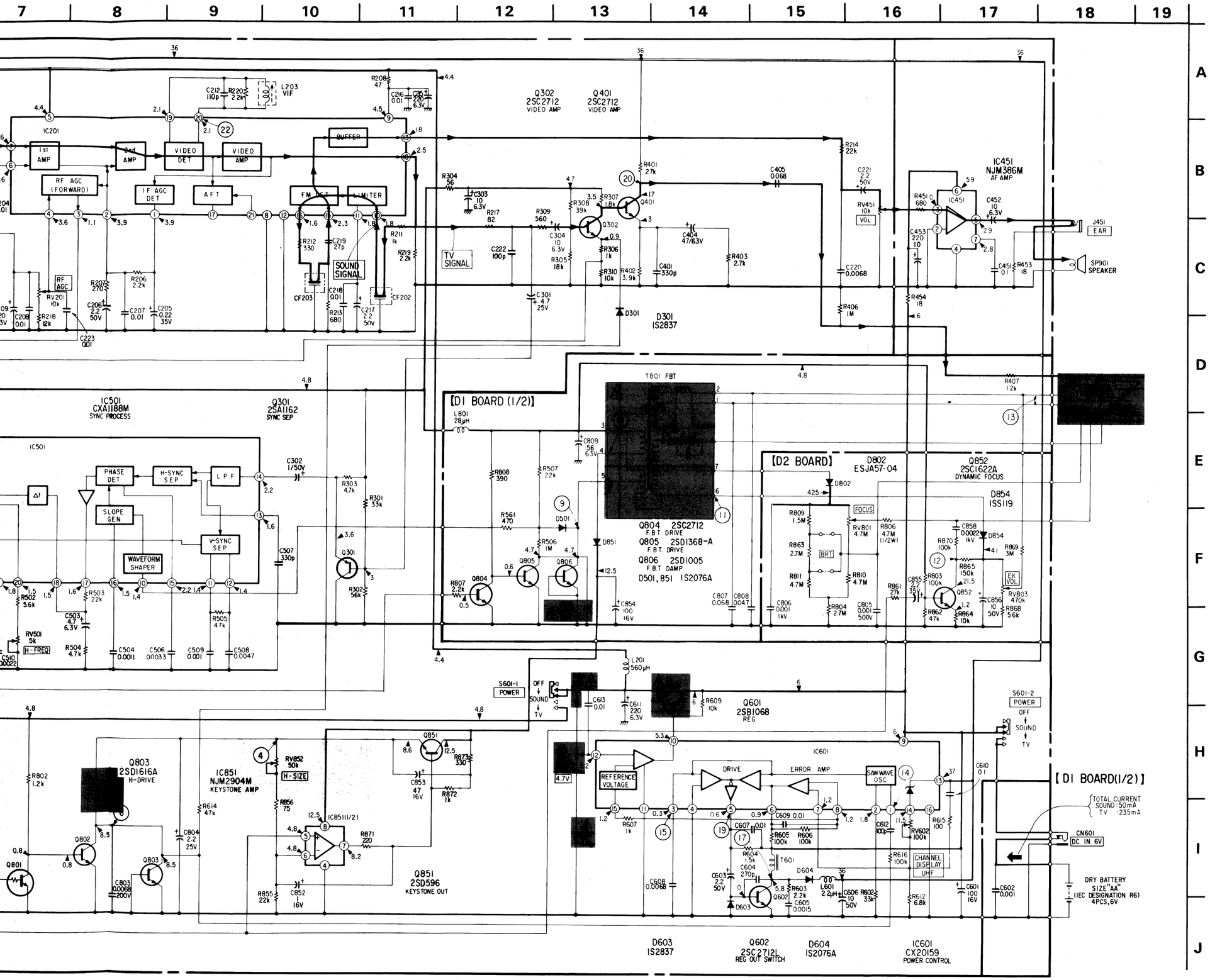
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- (1%) : indicates tolerances.
- [illegible]
- [illegible]
- Power voltage is DC [illegible] supply from set.
- Voltage is [illegible] conditions by using [illegible] set.
- Voltage [illegible] tolerances.
- Total current [illegible]

- Switch

Ref. No.	Switch	Position
S151	BAND	VHF
S601	POWER	OFF

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



Note:

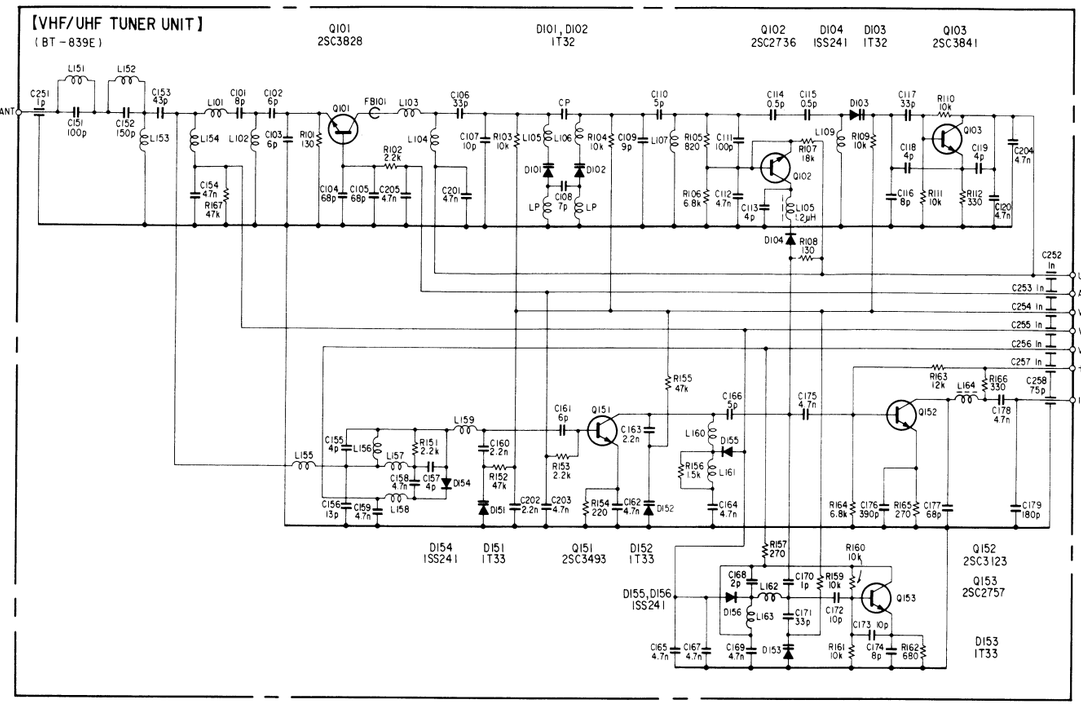
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- (1%) : indicates tolerances.
- ▬▬ : B+ bus.
- ▭ : adjustment for repair.
- Power voltage is 6V DC and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground no-signal (detuned) conditions with VOM (DC 50kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in color-bar signal input conditions by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Total current is measured under no-signal conditions.
- ▬▶ : signal path
- Switch

Ref. No.	Switch	Position
S151	BAND	VHF
S601	POWER	OFF

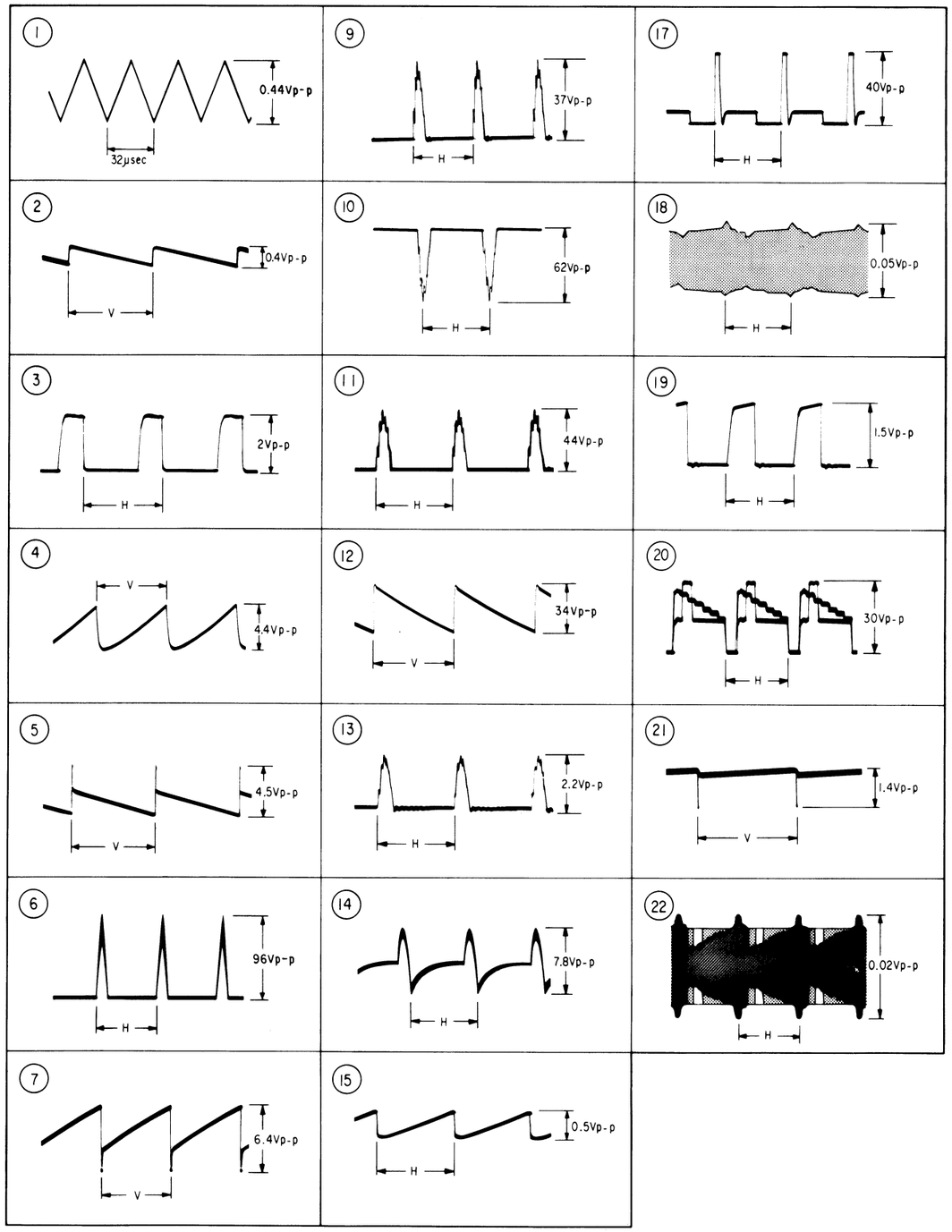
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

The VHF/UHF tuner unit is carefully adjusted at the factory and is supplied as one whole block for replacement.

3-3. VHF/UHF TUNER UNIT SCHEMATIC DIAGRAM

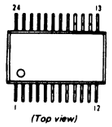


- Waveforms

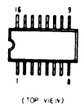


- Semiconductor Lead Layouts

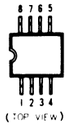
CXA1188M
CX20183



CX20159

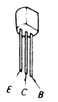


NJM2904M
NJM3414M
NJM386M

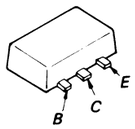


2SA812
2SC1622A
2SC1623
2SC1623-L7
2SC2714-R
2SC4047
2SC4112
2SD596

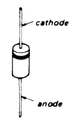
2SB1068-K
2SD1616A-K



2SD1005
2SD1368

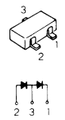


ESJA57-04
1S1585

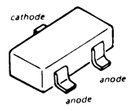


1SS119

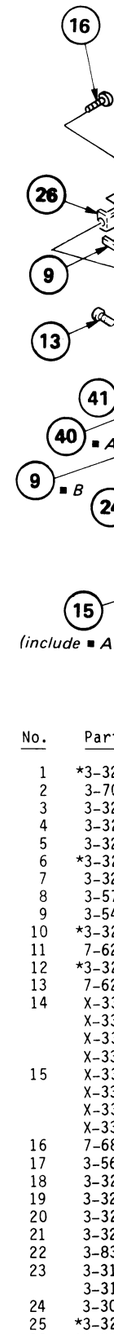
1SS123



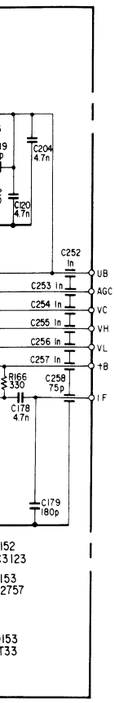
1S2837



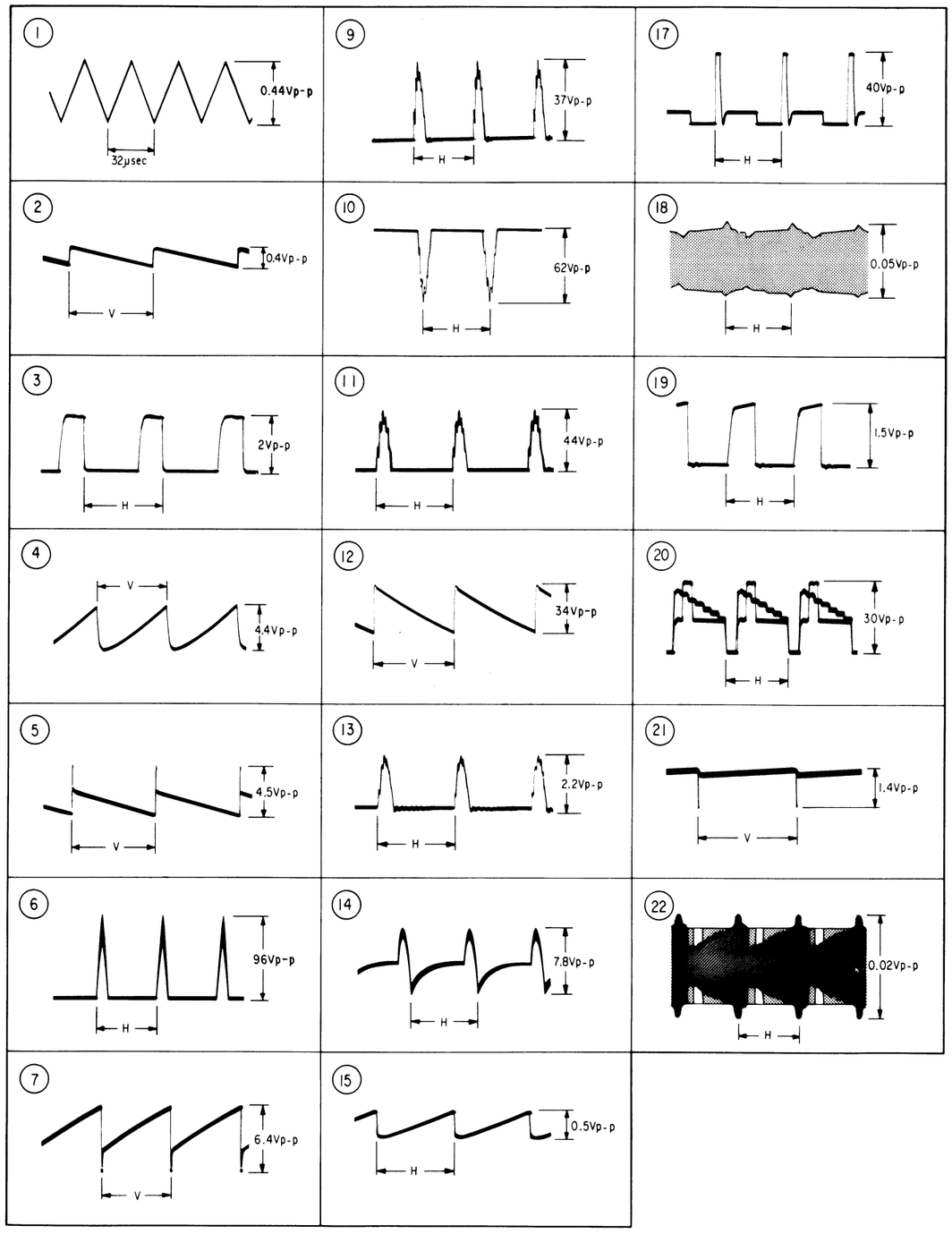
FD-10E FD-10E



No.	Part
1	*3-32
2	3-70
3	3-32
4	3-32
5	3-32
6	*3-32
7	3-32
8	3-57
9	3-54
10	*3-32
11	7-62
12	*3-32
13	7-62
14	X-33
	X-33
	X-33
	X-33
15	X-33
	X-33
	X-33
	X-33
16	7-68
17	3-56
18	3-32
19	3-32
20	3-32
21	3-32
22	3-83
23	3-31
	3-31
24	3-30
25	*3-32
26	*3-32

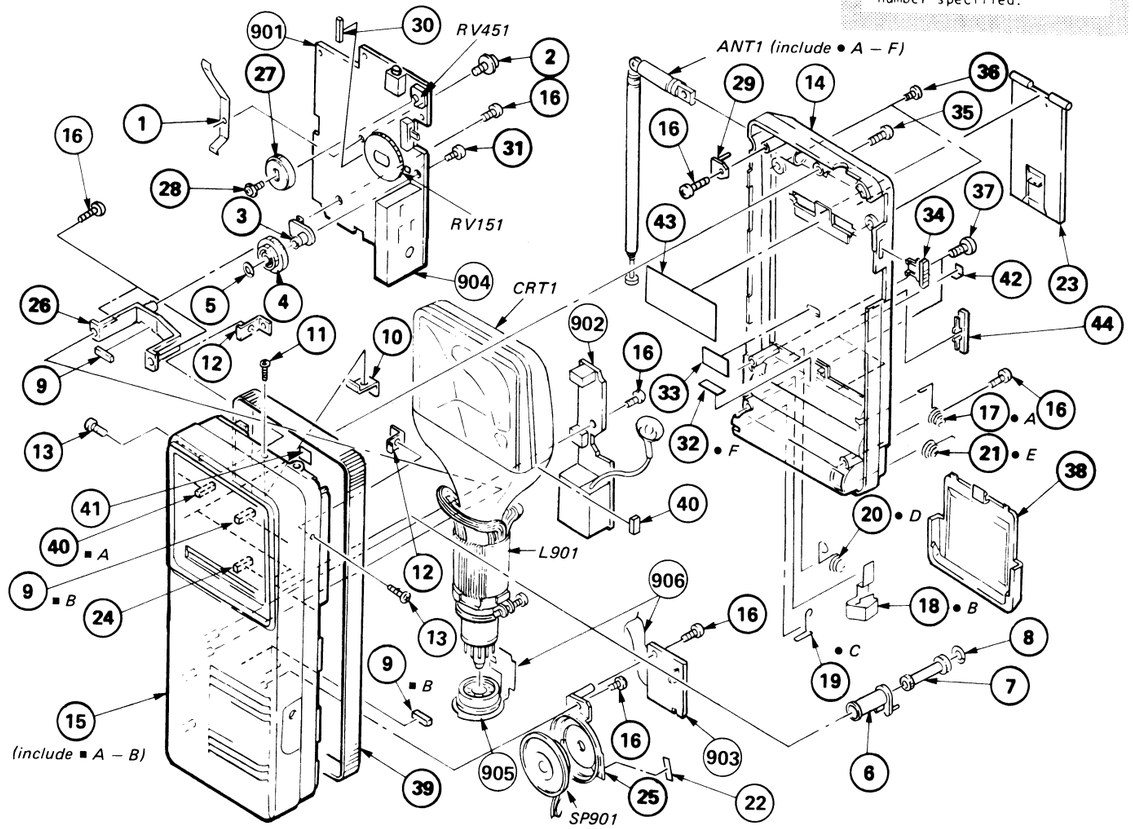


- **Waveforms**



SECTION 4
EXPLODED VIEWS AND PARTS LIST

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks
1	*3-329-414-01	PLATE, CONTACT, GROUND	
2	3-703-502-21	SCREW	
3	3-329-424-01	TUNING BLOCK	
4	3-329-427-01	KNOB, TUNING	
5	3-329-411-01	WASHER, STOPPER	
6	*3-329-435-01	RETAINER, SHAFT, TUNING	
7	3-329-403-01	SHAFT, TUNING	
8	3-578-223-11	WASHER, STOPPER	
9	3-545-659-00	CUSHION, SPEAKER	
10	*3-329-419-01	BRACKET, ANT	
11	7-627-553-28	SCREW, PRECISION +P 2X2.5	
12	*3-329-416-01	PLATE, NUT	
13	7-627-850-08	SCREW, PRECISION +P 1.4X2	
14	X-3329-477-1	(SILVER)...CABINET (REAR) ASSY	
	X-3329-477-2	(WHITE)....CABINET (REAR) ASSY	
	X-3329-477-3	(GRAY).....CABINET (REAR) ASSY	
	X-3329-477-4	(BLUE).....CABINET (REAR) ASSY	
15	X-3329-476-4	(GRAY).....CABINET (FRONT) ASSY	
	X-3329-476-5	(WHITE)....CABINET (FRONT) ASSY	
	X-3329-476-6	(SILVER)...CABINET (FRONT) ASSY	
	X-3329-476-7	(BLUE).....CABINET (FRONT) ASSY	
16	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
17	3-564-973-00	SPRING (B)	
18	3-329-431-01	BOARD, TERMINAL, BATTERY	
19	3-329-412-01	TERMINAL, PLUS	
20	3-329-415-01	TERMINAL, MINUS	
21	3-329-413-01	SPRING	
22	3-831-441-XX	SPACER, KNOB	
23	3-314-029-13	(GRAY,SILVER,BLUE)...STAND	
	3-314-029-82	(WHITE).....STAND	
24	3-309-009-00	SPACER, MOTOR	
25	*3-329-430-01	HOLDER, SP	
26	*3-329-404-01	SUPPORT, CRT	

No.	Part No.	Description	Remarks
27	3-333-333-01	KNOB, VOLUME	
28	3-703-502-41	SCREW	
29	*X-3329-402-1	BRACKET ASSY, STRAP	
30	9-911-841-XX	CUSHION	
31	3-318-203-71	SCREW (B1.7X5), TAPPING	
32	3-831-441-11	CUSHION (B)	
33	3-314-066-00	SHEET (B), PROTECTION	
34	3-329-423-01	KNOB, POWER SW	
35	7-685-784-04	SCREW +PTT 2X8 (S)	
36	3-318-202-21	SCREW (M1.4X5), TAPPING	
37	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
38	3-333-313-01	(SILVER)...LID, BATTERY CASE	
	3-333-313-11	(WHITE)....LID, BATTERY CASE	
	3-333-313-21	(BLUE).....LID, BATTERY CASE	
	3-333-313-61	(GRAY).....LID, BATTERY CASE	
39	3-329-401-01	STRIP, ORNAMENTAL	
40	9-911-839-XX	SPACER	
41	*3-329-460-01	SPACER	
42	3-831-441-XX	PAD, RESET BUTTON (6.5X4.5X0.3)	
43	*3-314-065-00	SHEET (A), PROTECTION	
44	3-332-211-11	KNOB, BAND SELECTION	
901	A-3017-169-A	PC BOARD ASSY, A	
902	*A-3017-166-A	PC BOARD ASSY, D1	
903	A-3017-170-A	PC BOARD ASSY, D2	
904	1-463-869-11	TUNER	
905	1-526-736-00	SOCKET, CRT	
906	1-616-744-11	PC BOARD, (C) FLEXIBLE	
ANT1	1-501-345-11	ANTENNA, FERRITE-ROD	
CRT1	⚠8-735-951-05	CRT 02JM(PS)	
L901	⚠1-451-276-11	DEFLECTION YOKE	
RV151	1-237-436-11	RES, VAR, CARBON (WITH SW) 200K (TUNING)	
RV451	1-230-939-11	RES, VAR, CARBON 10K (VOL)	
SP901	1-503-540-11	SPEAKER	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	A-3017-169-A	PC BOARD ASSY, A			
902	*A-3017-166-A	PC BOARD ASSY, D1			
903	A-3017-170-A	PC BOARD ASSY, D2			
904	1-463-869-11	TUNER			
905	1-526-736-00	SOCKET, CRT			
906	1-616-744-11	PC BOARD, (C) FLEXIBLE			
ANT1	1-501-345-11	ANTENNA, FERRITE-ROD			
C151	1-163-013-00	CERAMIC CHIP	0.0022MF	10%	50V
C152	1-124-225-00	ELECT	100MF	20%	6.3V
C153	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C154	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C156	1-163-013-00	CERAMIC CHIP	0.0022MF	10%	50V
C157	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C159	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C202	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C203	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C204	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C205	1-131-343-00	TANTALUM	0.22MF	10%	35V
C206	1-124-257-00	ELECT	2.2MF	20%	50V
C207	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C208	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C209	1-124-635-00	ELECT	220MF	20%	6.3V
C210	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C212	1-163-118-00	CERAMIC CHIP	110PF	5%	50V
C215	1-124-635-00	ELECT	220MF	20%	6.3V
C216	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C217	1-123-612-00	ELECT	2.2MF	20%	50V
C218	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C219	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C220	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C221	1-124-257-00	ELECT	2.2MF	20%	50V
C222	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C223	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C224	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C301	1-124-245-00	ELECT	4.7MF	20%	25V
C302	1-124-255-00	ELECT	1MF	20%	50V
C303	1-131-383-00	TANTALUM	10MF	10%	6.3V
C304	1-124-462-00	ELECT	10MF	20%	6.3V
C401	1-163-129-00	CERAMIC CHIP	330PF	10%	50V
C404	1-124-224-00	ELECT	47MF	20%	6.3V
C405	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C451	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C452	1-124-462-00	ELECT	10MF	20%	6.3V
C453	1-124-444-00	ELECT	220MF	20%	10V
C501	1-130-481-00	MYLAR	0.0068MF	5%	50V
C502	1-124-224-00	ELECT	47MF	20%	6.3V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C503	1-131-375-00	TANTALUM	4.7MF	10%	6.3V
C504	1-163-207-00	CERAMIC CHIP	0.0012MF	5%	50V
C506	1-163-015-00	CERAMIC CHIP	0.0033MF	10%	50V
C507	1-163-129-00	CERAMIC CHIP	330PF	10%	50V
C508	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C509	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C510	1-163-013-00	CERAMIC CHIP	0.0022MF	10%	50V
C511	1-127-483-00	ELECT(SOLID)	15MF	20%	6.3V
C513	1-131-375-00	TANTALUM	4.7MF	10%	6.3V
C514	1-131-346-00	TANTALUM	0.68MF	10%	35V
C515	1-124-257-00	ELECT	2.2MF	20%	50V
C516	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C553	1-124-245-00	ELECT	4.7MF	20%	25V
C554	1-163-145-00	CERAMIC CHIP	0.0015MF		50V
C555	1-124-635-00	ELECT	220MF	20%	6.3V
C601	1-124-168-00	ELECT	100MF	20%	16V
C602	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C603	1-124-257-00	ELECT	2.2MF	20%	50V
C604	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C605	1-163-145-00	CERAMIC CHIP	0.0015MF	10%	50V
C606	1-124-261-00	ELECT	10MF	20%	50V
C607	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C608	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C609	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C610	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C611	1-124-635-00	ELECT	220MF	20%	6.3V
C612	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C613	1-163-021-00	CERAMIC CHIP	0.01MF		50V
C803	1-106-363-00	MYLAR	0.0068MF	5%	200V
C804	1-127-508-00	ELECT(SOLID)	2.2MF	20%	25V
C805	1-102-038-00	CERAMIC	0.001MF	99%	500V
C806	1-162-697-11	CERAMIC	0.001MF		1KV
C807	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C808	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C809	1-126-123-41	ELECT	56MF	20%	6.3V
C813 ⚠	1-106-375-12	MYLAR	0.022MF	5%	100V
C851	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C852	1-131-347-00	TANTALUM	1MF	20%	16V
C853	1-124-236-00	ELECT	47MF	20%	16V
C854	1-124-445-00	ELECT	100MF	20%	16V
C855	1-124-257-00	ELECT	2.2MF	20%	35V
C856	1-124-261-00	ELECT	10MF	20%	50V
C858	1-162-147-00	CERAMIC	0.0022MF		1KV
C859	1-131-383-00	TANTALUM	10MF	10%	6.3V
CF202	1-567-566-11	FILTER, CERAMIC			
CF203	1-567-567-11	FILTER, CERAMIC			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
CN601	1-562-961-11	JACK (DC IN 6V)
CRT1	⚠8-735-951-05	CRT 02JM (PS)
D151	8-719-100-05	DIODE 1S2837
D152	8-719-101-23	DIODE 1SS123
D301	8-719-100-05	DIODE 1S2837
D501	8-719-815-85	DIODE 1S1585
D603	8-719-100-05	DIODE 1S2837
D604	8-719-815-85	DIODE 1S1585
D802	8-719-903-28	DIODE ESJA57-04
D851	8-719-815-85	DIODE 1S1585
D854	8-719-911-19	DIODE 1SS119
IC201	8-759-602-99	IC CX20183
IC451	8-759-700-50	IC NJM386M
IC501	8-752-031-99	IC CXA1188M
IC551	8-759-701-24	IC NJM3414M
IC601	8-759-802-39	IC CX20159
IC851	8-759-701-01	IC NJM2904M
J151	1-507-814-21	JACK, ANTENNA
J451	1-563-315-11	JACK (EAR)
JR157	1-216-295-00	METAL CHIP 0 5% 1/10W
JR201	1-216-295-00	METAL CHIP 0 5% 1/10W
JR301	1-216-295-00	METAL CHIP 0 5% 1/10W
JR302	1-216-295-00	METAL CHIP 0 5% 1/10W
JR453	1-216-296-00	METAL CHIP 0 5% 1/8W
JR455	1-216-295-00	METAL CHIP 0 5% 1/10W
JR801	1-216-295-00	METAL CHIP 0 5% 1/10W
JR802	1-216-295-00	METAL CHIP 0 5% 1/10W
JR803	1-216-295-00	METAL CHIP 0 5% 1/10W
L201	1-408-098-00	MICRO INDUCTOR 560UH
L202	*1-422-258-11	COIL, AIR-CORE
L203	1-404-633-11	COIL, VIF DETECTOR
L601	1-410-320-11	MICRO INDUCTOR 2.2UH
L801	1-421-549-00	COIL, CHOKE 28UH
L901	⚠1-451-276-11	DEFLECTION YOKE
Q153	8-729-805-94	TRANSISTOR 2SC4047
Q201	8-729-200-85	TRANSISTOR 2SC2714R
Q301	8-729-100-76	TRANSISTOR 2SA812
Q302	8-729-100-66	TRANSISTOR 2SC1623
Q401	8-729-100-66	TRANSISTOR 2SC1623
Q601	⚠8-729-116-57	TRANSISTOR 2SB1068-K
Q602	8-729-100-66	TRANSISTOR 2SC1623
Q801	8-729-806-99	TRANSISTOR 2SC4112
Q802	8-729-111-29	TRANSISTOR 2SD1616A-K
Q803	8-729-111-29	TRANSISTOR 2SD1616A-K
Q804	8-729-100-67	TRANSISTOR 2SC1623-L7

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q805	8-729-301-25	TRANSISTOR 2SD1368
Q806	8-729-103-72	TRANSISTOR 2SD1005
Q851	8-729-159-64	TRANSISTOR 2SD596
Q852	8-729-103-16	TRANSISTOR 2SC1622A
R151	1-216-097-00	METAL CHIP 100K 1% 1/10W
R152	1-216-101-00	METAL CHIP 150K 1% 1/10W
R153	1-216-740-91	METAL CHIP 560K 1% 1/10W
R154	1-218-132-91	METAL CHIP 4.7K 1% 1/10W
R201	1-216-037-00	METAL CHIP 330 5% 1/10W
R202	1-216-067-00	METAL CHIP 5.6K 5% 1/10W
R203	1-216-041-00	METAL CHIP 470 5% 1/10W
R205	1-216-049-00	METAL CHIP 1K 5% 1/10W
R206	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R207	1-216-035-00	METAL CHIP 270 5% 1/10W
R208	1-216-017-00	METAL CHIP 47 5% 1/10W
R211	1-216-049-00	METAL CHIP 1K 5% 1/10W
R212	1-216-037-00	METAL CHIP 330 5% 1/10W
R213	1-216-045-00	METAL CHIP 680 5% 1/10W
R214	1-216-081-00	METAL CHIP 22K 5% 1/10W
R215	1-216-075-00	METAL CHIP 12K 5% 1/10W
R217	1-216-023-00	METAL CHIP 82 5% 1/10W
R218	1-216-075-00	METAL CHIP 12K 5% 1/10W
R219	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R220	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R301	1-216-085-00	METAL CHIP 33K 5% 1/10W
R302	1-216-091-00	METAL CHIP 56K 5% 1/10W
R303	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R304	1-216-019-00	METAL CHIP 56 5% 1/10W
R305	1-216-079-00	METAL CHIP 18K 5% 1/10W
R306	1-216-049-00	METAL CHIP 1K 5% 1/10W
R307	1-216-055-00	METAL CHIP 1.8K 5% 1/10W
R308	1-216-748-11	METAL CHIP 39K 5% 1/10W
R309	1-216-043-00	METAL CHIP 560 5% 1/10W
R310	1-216-073-00	METAL CHIP 10K 5% 1/10W
R401	1-216-083-00	METAL CHIP 27K 5% 1/10W
R402	1-216-063-00	METAL CHIP 3.9K 5% 1/10W
R403	1-216-059-00	METAL CHIP 2.7K 5% 1/10W
R406	1-216-121-00	METAL CHIP 1M 5% 1/10W
R407	1-216-051-00	METAL CHIP 1.2K 5% 1/10W
R451	1-216-045-00	METAL CHIP 680 5% 1/10W
R453	1-216-007-00	METAL CHIP 18 5% 1/10W
R454	1-216-007-00	METAL CHIP 18 5% 1/10W
R501	1-216-081-00	METAL CHIP 22K 5% 1/10W
R502	1-216-067-00	METAL CHIP 5.6K 5% 1/10W
R503	1-216-081-00	METAL CHIP 22K 5% 1/10W
R504	1-216-065-00	METAL CHIP 4.7K 5% 1/10W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R505	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R506	1-216-121-00	METAL CHIP	1M	5%	1/10W
R507	1-216-081-00	METAL CHIP	22K	5%	1/10W
R508	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R510	1-216-089-00	METAL CHIP	47K	5%	1/10W
R511	1-216-089-00	METAL CHIP	47K	5%	1/10W
R512	1-216-089-00	METAL CHIP	47K	5%	1/10W
R513	1-216-099-00	METAL CHIP	120K	5%	1/10W
R514	1-216-105-00	METAL CHIP	220K	5%	1/10W
R515	1-216-025-00	METAL CHIP	100	5%	1/10W
R516	1-216-001-00	METAL CHIP	10	5%	1/10W
R551	1-216-748-11	METAL CHIP	39K	5%	1/10W
R552	1-216-083-00	METAL CHIP	27K	5%	1/10W
R558	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R559	1-216-039-00	METAL CHIP	390	5%	1/10W
R560	1-216-089-00	METAL CHIP	47K	5%	1/10W
R561	1-216-041-00	METAL CHIP	470	5%	1/10W
R602	1-216-085-00	METAL CHIP	33K	5%	1/10W
R603	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R604	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R605	1-216-097-00	METAL CHIP	100K	5%	1/10W
R606	1-216-097-00	METAL CHIP	100K	5%	1/10W
R607	1-216-049-00	METAL CHIP	1K	5%	1/10W
R609	1-216-073-00	METAL CHIP	10K	5%	1/10W
R610	⚠1-216-081-00	METAL CHIP	22K	5%	1/10W
R611	⚠1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R612	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R614	1-216-089-00	METAL CHIP	47K	5%	1/10W
R615	1-216-025-00	METAL CHIP	100	5%	1/10W
R616	1-216-097-00	METAL CHIP	100K	5%	1/10W
R802	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R803	1-249-441-11	CARBON	100K	5%	1/4W
R804	1-216-280-00	METAL CHIP	2.7M	5%	1/8W
R806	1-202-727-00	SOLID	4.7M	10%	1/2W
R807	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R808	1-216-039-00	METAL CHIP	390	5%	1/10W
R809	1-216-125-00	METAL CHIP	1.5M	5%	1/10W
R810	1-216-286-00	METAL CHIP	4.7M	5%	1/8W
R811	1-216-286-00	METAL CHIP	4.7M	5%	1/8W
R851	1-216-077-00	METAL CHIP	15K	5%	1/10W
R852	1-216-097-00	METAL CHIP	100K	5%	1/10W
R855	1-216-081-00	METAL CHIP	22K	5%	1/10W
R856	1-216-022-00	METAL CHIP	75	5%	1/10W
R860	1-216-081-00	METAL CHIP	22K	5%	1/10W
R861	1-216-083-00	METAL CHIP	27K	5%	1/10W
R862	1-216-089-00	METAL CHIP	47K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R863	1-216-131-11	METAL CHIP	2.7M	5%	1/10W
R864	1-216-073-00	METAL CHIP	10K	5%	1/10W
R865	1-216-101-00	METAL CHIP	150K	5%	1/10W
R868	1-216-240-00	METAL CHIP	56K	5%	1/8W
R869	1-216-132-11	METAL CHIP	3M	5%	1/10W
R870	1-216-097-00	METAL CHIP	100K	5%	1/10W
R871	1-216-033-00	METAL CHIP	220	5%	1/10W
R872	1-216-049-00	METAL CHIP	1K	5%	1/10W
R873	1-216-037-00	METAL CHIP	330	5%	1/10W
RV151	1-237-436-11	RES, VAR, CARBON (WITH SW)200K(TUNING)			
RV155	1-230-429-11	RES, ADJ, METAL GLAZE 220K			
RV201	1-237-278-11	RES, ADJ, CARBON 10K			
RV451	1-230-939-11	RES, VAR, CARBON 10K (VOL)			
RV501	1-237-287-11	RES, ADJ, CARBON 5K			
RV502	1-230-429-11	RES, ADJ, METAL GLAZE 220K			
RV503	1-228-357-00	RES, ADJ, METAL GLAZE 4.7K			
RV601	⚠1-237-287-11	RES, ADJ, CARBON 5K			
RV602	1-237-289-11	RES, ADJ, CARBON 100K			
RV801	1-230-954-11	RES, ADJ (HIGH VOLTAGE) 4.7M			
RV803	1-228-999-00	RES, ADJ, CARBON 470K			
RV851	1-237-289-11	RES, ADJ, CARBON 100K			
RV852	1-237-288-11	RES, ADJ, CARBON 50K			
S151	1-570-377-11	SWITCH, SLIDE (BAND)			
S601	1-554-598-00	SWITCH, SLIDE (POWER)			
SP901	1-503-540-11	SPEAKER			
SWF201	1-567-565-11	FILTER, CERAMIC			
T601	1-410-352-11	MICRO INDUCTOR			
T801	⚠1-439-402-11	TRANSFORMER ASSY, FLYBACK			

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-463-692-11	(E)...ADAPTOR, AC (AC-650W)
3-329-450-01	STRAP
3-329-496-01	SPACER
3-329-499-01	CUSHION
3-333-352-01	(AEP)...INDIVIDUAL CARTON
3-333-355-01	(E).....INDIVIDUAL CARTON
3-333-303-01	BAG, PROTECTION
3-701-622-00	BAG, POLYETHYLENE
3-703-913-01	(GRAY).....LABEL, COLOR
3-703-916-01	(BLUE).....LABEL, COLOR
3-703-921-01	(SILVER)...LABEL, COLOR
3-703-923-01	(WHITE)....LABEL, COLOR
3-765-217-41	MANUAL, INSTRUCTION
3-765-217-51	MANUAL, INSTRUCTION

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

TROUBLESHOOTING GUIDE

The unit does not operate.
- Connect the AC power adaptor or the car battery cord firmly (on AC or car battery operation).
- Replace batteries.
- Install the batteries with correct polarity.

No picture (screen not lit), but good sounds.
- Set the POWER switch to TV.
- Replace batteries

Herringbone pattern, double images, stripes, too indistinct, etc.
- Readjust the tuning.
- Adjust the telescopic antenna.

Dotted line or stripes.
- Often caused by interference from car ignition, neon signs, hair dryers, electric-razors, etc. Move the unit to another spot.
- Adjust the telescopic antenna.

No sound from the speaker.
- Turn up the VOL control.

Sony Corporation
Audio Group

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